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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,952	01/22/2004	Robert Vincent	BOW1335-047	5966

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COLUMBUS, OH 43216-7513

EXAMINER

AGRAWAL, RITESH

ART UNIT	PAPER NUMBER
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1631

MAIL DATE	DELIVERY MODE
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06/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/762,952

Applicant(s)

VINCENT, ROBERT

Examiner

Ritesh Agrawal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 94-111 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 94-111 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-21 and 48-63) in the reply filed on 6/19/06 is acknowledged.

Since claims 20-92 were previously cancelled, applicants' amendment filed 3/27/07 introducing claims 94-111 (equivalent to cancelled claims 20-21 and 48-63) is acknowledged and entered. Claims 1-19 and 94-111 are currently pending and under consideration.

Drawings

2. The drawings are objected to because the drawings are too dark (other than 1, and 10-13) to see the intended details. Furthermore, drawings should be labeled with appropriate figure numbers as "FIG. X", sheet numbers, and identifying indicia. See 37 CFR 1.84 (c, t, u). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date

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of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-12, 15-17, 19, 94, 96-107, 109-110 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-12, 15-17, 19, 94, 96-107, 109-110 are drawn to a process. A statutory process must include a step of a physical transformation, or produce a useful, concrete, and tangible result (*State Street Bank & Trust Co. v. Signature Financial Group Inc.* CAFC 47 USPQ2d 1596 (1998), *AT&T Corp. v. Excel Communications Inc.* (CAFC 50 USPQ2d 1447 (1999))). The instant claims do not result in a physical transformation, thus the Examiner must determine if the instant claims include a useful, concrete, and tangible result.

As noted in *State Street Bank & Trust Co. v. Signature Financial Group Inc.* CAFC 47 USPQ2d 1596 (1998) below, the statutory category of the claimed subject matter is not relevant to a determination of whether the claimed subject matter produces a useful, concrete, and tangible result:

The question of whether a claim encompasses statutory subject matter should not focus on *which* of the four categories of subject matter a claim is directed to 9-- process, machine, manufacture, or composition of matter--but rather on the essential characteristics of the subject matter, in particular, its practical utility. Section 101 specifies that statutory subject matter must also satisfy the other "conditions and requirements" of Title 35, including novelty, nonobviousness, and adequacy of disclosure and notice. See *In re Warmerdam*, 33 F.3d 1354, 1359, 31 USPQ2d 1754, 1757-58 (Fed. Cir. 1994). For purpose of our analysis, as noted above, claim 1 is directed to a machine programmed with the Hub and Spoke software and admittedly produces a "useful, concrete, and tangible result." *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557. This renders it statutory subject matter, even if the useful result is expressed in numbers, such as price, profit, percentage, cost, or loss.

In determining if the claimed subject matter produces a useful, concrete, and tangible result, the Examiner must determine each standard individually. For a claim to be "useful," the claim must produce a result that is specific, and substantial. For a claim to be "concrete," the process must have a result that is reproducible. For a claim to be "tangible," the process must produce a real world result. Furthermore, the claim must be limited only to statutory embodiments.

Claims 1-12, 15-17, 19, 94, 96-107, 109-110 do not produce a tangible result. A tangible result requires that the claim must set forth a practical application to produce a real-world result. This rejection could be overcome by amendment of the claims to recite that a result of the method is outputted to a display or a memory or another computer on a network, or to a user, or by including a physical transformation.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-19 and 94-111 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation of a least three frequency ranges in lines 4-5 but then lists a series of ranges with units of length. As frequency is measured in Hertz and not as a measurement of length, it is unclear as to how the ranges represent frequencies.

Claims 9-10 recite the limitation "the calculated value" in line 1. There is insufficient antecedent basis for this limitation in the claim. There is no prior reference to a "calculated value" in claims 9 or 10 or claim 1, from which they depend.

Claims 9-10 recite the limitation "the actual measured amount" in line 2. There is insufficient antecedent basis for this limitation in the claim. There is no prior reference to an actual measured amount in claims 9 or 10 or claim 1, from which they depend.

Claims 11-12 recite the limitation "the calculated value of X" in line 1. There is insufficient antecedent basis for this limitation in the claim. There is no prior reference to a calculated value or to X in claims 11-12 or claim 5, from which they depend.

Claims 11-12 recites the limitation "the actual measured amount of said coliform" in line 2. There is insufficient antecedent basis for this limitation in the claim. There is no prior reference to a measured amount of coliform in claims 11-12 or the claims from which they depend.

Claim 17 recites the limitation of a least three frequencies in lines 4-5 but then lists a series of LANDSAT bands that represent units of length. As frequency is measured in Hertz and not as a measurement of length, it is unclear as to how the ranges covered by the bands represent frequencies.

Claim 17 recites the limitation "said at least three frequency ranges" in line 8. There is insufficient antecedent basis for this limitation in the claim. It is unclear if these "frequency ranges" are the same as the "frequencies" as in line 5.

Claim 17 recites the limitation "a method according to claim 1 . . ." in lines 21-23. It is unclear if this is a limitation on claim 17 or if this is supposed to be a separate claim.

Claim 94 recites the limitation of a least three frequency ranges in lines 4-5 but then lists a series of ranges with units of length. As frequency is measured in Hertz and not as a measurement of length, it is unclear as to how the ranges represent frequencies.

Claim 96 recites the limitation of a least three frequency ranges in lines 4-5 but then lists a series of ranges with units of length. As frequency is measured in Hertz and not as a measurement of length, it is unclear as to how the ranges represent frequencies.

Claims 101-102 recite the limitation "the calculated value" in line 1. There is insufficient antecedent basis for this limitation in the claim. There is no prior reference to a "calculated value" in claims 101 or 102 or claim 96, from which they depend.

Claims 101-102 recite the limitation "the actual measured amount" in line 2. There is insufficient antecedent basis for this limitation in the claim. There is no prior

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reference to an actual measured amount in claims 101 or 102 or claim 96, from which they depend.

Claims 103-104 recites the limitation "the actual measured amount of said E. coli" in line 2. There is insufficient antecedent basis for this limitation in the claim. There is no prior reference to a measured amount of coliform in claims 103-104 or the claims from which they depend.

Claim 107 recites the limitation of a least three frequencies in lines 4-5 but then lists a series of LANDSAT bands that represent units of length. As frequency is measured in Hertz and not as a measurement of length, it is unclear as to how the ranges covered by the bands represent frequencies.

Claim 107 recites the limitation "said at least three frequency ranges" in line 8. There is insufficient antecedent basis for this limitation in the claim. It is unclear if these "frequency ranges" are the same as the "frequencies" as in line 5.

Claim 110 recites the limitation of a least three frequency ranges in lines 4-5 but then lists a series of ranges with units of length. As frequency is measured in Hertz and not as a measurement of length, it is unclear as to how the ranges represent frequencies.

Claim Objections

5. Claim 17 is objected to because of the following informalities: The claim contains multiple sentences. Each claim should contain only a single sentence. Appropriate correction is required.

Conclusion

6. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ritesh Agrawal whose telephone number is (571) 272-2906. The examiner can normally be reached on 8:30 AM - 5:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on 571-272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ritesh Agrawal *RA*

John S. Brusca 6 June 2007

JOHN S. BRUSCA, PH.D
PRIMARY EXAMINER